ATOMS FOR PEACE AFTER 50 YEARS: THE NEW CHALLENGES AND OPPORTUNITIES

A SERIES OF WORKSHOPS AND CONFERENCE
ORGANIZED BY
THE CENTER FOR GLOBAL SECURITY RESEARCH
LAWRENCE LIVERMORE NATIONAL LABORATORY

Terms of Reference

Introduction
The Center for Global Security Research and its Director, Ambassador Ronald F. Lehman II, are organizing a series of interactive workshops throughout 2003 examining what has happened since December 8, 1953 when President Dwight D. Eisenhower delivered his Atoms for Peace speech to the United Nations General Assembly, and what the future holds for nuclear technology. The President offered a bold solution to the dilemmas facing the world at that time. He stated a determination to "help solve the fearful atomic dilemma" and proposed to "serve the peaceful pursuits of mankind" and help non-nuclear weapons states to develop the civilian benefits of nuclear technology, including power, medicine and agriculture. In return the weapons states would work to reduce the dangers from their own nuclear weapons.

Some of these proposals have come to pass and others have not. It seems an appropriate time to identify in today's terms the successes as well as the failures from Eisenhower's vision. More importantly, it is a time to identify the challenges and future opportunities for nuclear technology. Eisenhower recognized that nuclear technology spawned a system of closely interrelated parts. These parts comprise six major elements (Defense and Deterrence, Proliferation and Arms Control, Power, Medical and Other Civilian Benefits, Materials, Governance), all with important interrelationships in an overall system. It is intended to keep this overall system in the focus of the discussions.

Approach
Our method is to pose specific issues and questions and engage small groups of knowledgeable key thinkers and influential decision-makers from nations around the world to help provide clarity, rather than concrete solutions. These participants will be sought for their ability to represent diverse opinions on the important issues surrounding nuclear technology today. The issues raised and the questions these then pose should help define what we know and what we do not know, what we can and cannot agree on, and clarify what is needed to resolve these unknowns.

The discussion will be framed around a set of the most critical issues. For example, nuclear terrorism and international commerce, materials control and nuclear power, nuclear non-use and state sovereignties, public opinion and environmental realities (including byproducts). These issues are important to a greater or lesser degree within all of the elements of the nuclear system. General questions then include:

What does the future hold for the nations of the world, in terms of national defense, nuclear energy, medicine and other civilian benefits, and the non-proliferation regime?
What has changed since 1953 and how do the changes affect the future?
Where should the emphasis of future agreements be?
What will the nuclear regime look like in 10 years? 20 years? 50 years?

Objective

The results of the workshop discussions will be used to prepare a report that will identify the challenges and opportunities for nuclear technology. The report will then be the topic of discussion at a Conference planned for Washington D.C. on September 5, 2003. A Symposium on this topic and the outcome of the workshops and conference is also planned before the anniversary on November 13-14. Either or both of these events may be duplicated in other countries as well, led by non-U.S. participants in the project. A draft report will be prepared before the first workshop and as discussion proceeds the draft will de updated and circulated to the workshop participants prior to each workshop. The final report on the issues and the discussions will be published for general distribution.

Working Method and Timetable

International Advisors to the project include Lev Ryabev, former Deputy Minister of the Ministry for Atomic Energy of the Russian Federation, Jacques Bouchard, Director, Nuclear Energy Division of the Commissariat a L'énergie Atomique, Paris, and Atsuyuki Suzuki, Professor at the University of Tokyo.

The 1st workshop will be held in Livermore, California in early April and will focus on the International Security implications of nuclear technology. It will be chaired by William Schneider Jr., Chairman of the Defense Science Board of the U.S. Department of Defense. Questions related to this workshop include:

What are the security (and insecurity) drivers for States and Non-State actors?
What is (will be) the role of nuclear weapons for defense? For deterrence?
What is and will be the role of technology?
What does the future nonproliferation regime look like? From the perspective of nuclear weapons states? From non-nuclear weapons states?
What is the future for missile defense?
In moving forward how might the relationship between supply side (weapons) and demand side (proliferation) change?

The 2nd workshop will be held near Tokyo, Japan in late May and will focus on Civilian Applications of nuclear technology. John J. Taylor, Vice-President (ret.) of the Electric Power Research Institute in Palo Alto, California will chair this workshop. Questions in this workshop include:

How much energy will be required, by when, and where?

What amount of this energy will be power and how much of this is likely to be nuclear power?
Can this nuclear power be competitive economically?
What kind of nuclear power is there likely to be at different time frames (LWR, HTGR, thermo-electric conversion, fast fission, fusion)?
What advances are in store for nuclear medicine? industrial isotopes?
What is the future of nuclear diagnostics (industrial, underground, et al.)?
Will there be advances in agricultural applications?
What is the future of desalination and can nuclear power play a role? What is the future of nuclear technology in space power and/or propulsion?
What do technological innovations tell us about options for the future?

The 3rd workshop will be held in Europe in late July and will focus on issues that cut across the entire nuclear regime. This workshop will be chaired by Michael M. May, Professor Emeritus at the Center for International Security and Cooperation at Stanford University. In addition to all the aforementioned questions, those pertinent to this workshop include items and issues that bridge the entire nuclear system. They include specific topics such as nuclear materials (excess weapons and civilian), waste and disposition, safety, environmental protection, education and public confidence, regulations, and governance and management of the nuclear system. Questions to be examined include:

How will the system of the future be managed in all its broad aspects (Governance, materials, international, regional)?
How might the nonproliferation regime evolve? How should it be managed?
What provisions can be made for legacy nuclear materials, independent of the future?
Are regional waste and/or spent fuel repositories viable considerations for the future?
What are the viable dispositions for material resulting from weapons draw down?
How safe can nuclear systems (weapons and civilian) be made?
Are nuclear systems compatible with the environment?
How should nuclear systems be financed?

It is our expectation that these and other questions should evolve as the discussion among the participants and the workshops proceed. The final report will express the range of issues and questions discussed, points of agreement and disagreement, and clarify what is necessary to resolve the unknowns. Drafts of the evolving report will be distributed to the participants one week before each workshop. The final report will be distributed at the Conference in September.

Measures of Impact

The Center for Global Security Research, established in 1996, brings together diverse expert communities to address common challenges with significant opportunity for key decision-makers. Projects such as this aim to expand knowledge of the technology-policy interface. In the context of the interrelationships within and outside the nuclear system, the discussions and report from this project will be available for decision-makers. They can review the issues, see what is known and unknown, what appears to be needed to resolve these unknowns, where there is general agreement and where there is not. These decision-makers will determine the impact of the product.

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